fiber Network
Solutions Inc.
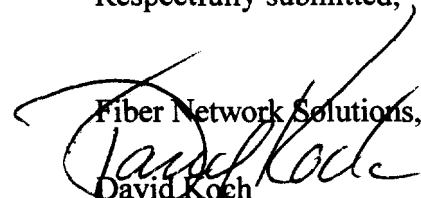
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March 19, 1998

Magalie Roman Salas
Secretary of FCC
Room 222
1919 M Street, N.W.
Washington, D. C. 20554

Re: CC Docket 97-211

Dear Ms. Roman Salas:

Enclosed please find an original and twelve copies of Reply Comments on the proposed merger for WorldCom/MCI for filing. An additional copy and diskette has bbeen filed with Janice Myles as well.

Respectfully submitted,

Fiber Network Solutions, Inc.

David Koch
President and CEO

and

Laurel I. Sturm., Esq.
General Counsel

No. of Copies rec'd O+12
List A B C D E

Before the
Federal Communication Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Applications of WorldCom, Inc. and	)	
MCI Communications Corporation for	)	CC Docket No. 97-211
Transfer of Control of	)	
MCI Communications Corporation	)	
To WorldCom, Inc.	)	

Reply Comments of
Fiber Network Solutions, Inc.

David Koch
President and CEO
Laurel I. Sturm, Esq
General Counsel
Fiber Network Solutions, Inc.
The FiberNet Building
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800-899-5619

Dated: March 19, 1998

REPLY COMMENTS

Fiber Network Solutions, Inc. is a Tier One network service and backbone provider offering its clients affordable, dedicated connections to the Internet. We are currently connected at four of the Network Access Points (NAPs) with plans to connect to all six NAPs within the next fiscal year. Our scalable technology and excellent customer service enables us to offer affordable Internet access to business and Industry. Our primary markets are in Ohio, Michigan, Indiana and Pennsylvania areas but, we can provide connections throughout the United States. The company will deploy additional regions and physical POPs (Points of Presence) within the next 24 months for full coverage of North America.

It is Fiber Network Solutions, Inc.'s position that free and open peering without monetary settlement is paramount to the expansion of the Internet and continued economic growth of the United States. Fiber Network Solutions does not oppose the WorldCom/MCI merger provided that WorldCom/MCI/UUnet and all applicable affiliates of WorldCom agree to the fundamental requirement of free and open peering at the SIX NAPS (Network Access Points) with all other Internet backbone providers in accordance with reasonable and industry acceptable prerequisite criteria as outlined herein.

THE INTERNET

The Internet, as a singular entity does not exist. There are roughly 160 plus independent Internet backbone providers, sometimes referred to as Tier One Internet Service Providers, each of which maintain private networks which are connected to one or more of the six major NAPs.

The NAPs were originally deployed under government grant by The National Science Foundation for the sole purpose of providing a common point for networks to interconnect. The initial concept of the Internet was based upon the fundamental premise that the growth and utility of an Internet would require the innovation of many entrepreneurs and engineering organizations. Therefore, the Internet is the result of 160 plus independent backbone networks meeting at one or more of the NAPs and exchanging digital traffic from one to the other by physical interconnections. These 160 plus separate networks – interconnected are what forms what we know today as one large network – The Internet.

THE ISP BACKBONE MARKETPLACE

Only three years ago, approximately 95% of Internet traffic was carried by the five large Internet service backbone providers – UUnet, PSInet, MCI, Sprint and BBN Planet and only 5% was carried by the mid-size network service providers. Free enterprise permitted many mid-size network service providers to enter the market and compete in an atmosphere of fair competition. Mid-size network service providers have been able to reduce Internet access costs to consumers by as much as 70% while remaining profitable. This resulted in dramatic growth of the Internet and the Internet community. More new subscribers have accessed the Internet during the past three years than in the entire previous history of the Internet. As a result of the expanded market and an atmosphere of fair competition, today the combined mid-size network service providers carry approximately 40% of the Internet traffic.

PEERING

Interconnections by various Internet backbone service providers are facilitated through what is commonly referred to as "peering." Peering is fundamental to the very design and functionality of the Internet. The growth of the Internet has been the result of each organization operating in a free enterprise system where no single network or organization has control over any other. All organizations have benefited because of the free and open peering arrangements among them. To date, peering has been without any monetary exchange between peers since the inception of the Internet. Free and open peering without monetary settlement is paramount to the continued survival of the Internet.

Open peering between Tier One network service providers is the very essence of the Internet. If the WorldCom/MCI merger is approved, one single organization, which already owns UUnet, may control approximately 60% of the Internet. WorldCom/MCI/UUnet must be held accountable and required to behave as a responsible organization that does not impose unnecessary and artificial barriers to open and free peering thereby ignoring fair competition - the very basis of our economy. These companies with large market share have previously announced that they planned to charge for peering when they thought they were in a control position. They elected to rescind their decisions …temporarily while they seek approval of the merger.

If the merger of WorldCom/MCI is approved without also requiring a free and open peering condition, this company will be in a position to seize control of the marketplace by charging for peering. If WorldCom/MCI/UUnet is permitted to charge for peering, or refuses to peer, open access to the Internet could be stifled. Estimates for peering range from $15,000 to

$35,000 per month. Alternatively, if peering is refused, a mid-size provider is forced to pay

upwards of $60,000 per month for DS3 access to the WorldCom/MCI/UUnet network. Thus, the

entry barrier for new Internet service backbone providers entering the market will be prohibitive.

To survive, existing mid-size Tier One Internet Service Providers would be forced to pass the

peering costs along to their customers – many of which are the smaller Internet Service Providers

(ISPs) who provide local residential and small business dial-up access to the Internet. The cost

that these small ISPs would have to pass on to their customers could raise the price for

residential dial-up from an average of $19.95 per month to over $150.00 per month in some

cases. Obviously, as a result of charging for peering at the backbone level, the trickle down

effect could enable WorldCom/MCI/UUnet to capture the entire dial-up ISP market as well as

the entire Internet backbone service provider market.

WorldCom/MCI/UUnet have suggested that they need to charge for peering because they

are carrying all of the additional traffic of the mid-size backbone providers. Thus, they state that

they have to expand their existing networks and incur additional costs that they otherwise would

not incur but for peering. This argument is without merit as explained below.

It is important to differentiate between "peering" and "transit services." When two

networks "peer," only that digital traffic that is destined for a subscriber on the peer's network is

exchanged. Neither network carries traffic from a peer's network that is destined for a third

network. For example, if MCI and AGIS are peering, a subscriber on MCI's network can send an

e-mail message to a subscriber on AGIS's network. The e-mail will travel on MCI's network to

a NAP where the two companies peer and traverse to AGIS's network and finally to the destined

subscriber. If that same MCI subscriber sends an e-mail message to a subscriber on Fiber

Network Solutions' network, it will travel through MCI's network but will never travel on

AGIS's network. A separate peering session must be in place between MCI and Fiber Network Solutions for the message to reach its destination. In other words, no peer is required to carry traffic that is not destined for or originating from their.

Transit service does provide the ability for a message to travel across a network that is neither the origination nor destination of the digital traffic. Organizations such as PSInet, Genuity and NAPNET are examples of organizations that have peering with MCI, Sprint, UUnet, among others and sell transit service to network service providers who do not have peering with these organizations. Transit service allows a network service provider to send and receive traffic, through a transit provider, to and from networks with whom they do not have direct peering agreements. The traffic traverses PSInet, Genuity or NAPNET's network as transit traffic. These services are provided for a fee. These organizations do incur costs to expand their network to accommodate the additional traffic that is not destined to or originating from their network. There is greater exposure to potential degradation of service quality, capacity and speed when using transit service as opposed to direct peering.

Since peering does not require that a provider carry transit traffic that is not destined for their network or originating from their network, WorldCom/MCI is only providing routing for their own customers who are paying them directly for Internet access. If a subscriber on the WorldCom/MCI/UUnet network wants to send a message to a subscriber on a different network, each of the network service providers are paid by their respective subscriber to carry that traffic on their network to a NAP where it is handed off to the other network. Both network service providers receive the revenue proportional to the traffic they carry.

The digital traffic traverses the WorldCom/MCI/UUnet network either to the subscriber on that network or to the NAP where it is handed off to the recipient subscriber's network

through peering. The fact remains that WorldCom/MCI/UUnet are being paid by their subscriber to deliver or accept that traffic. It is unreasonable that WorldCom/MCI/UUnet be paid by another network service provider to deliver traffic to their customer when their customer has already paid for that service.

Conversely, if a subscriber on WorldCom/MCI/UUnet network makes a request to download a web page from a web site that is hosted on the WorldCom/MCI/UUnet network, that web page (in digital form) must travel from the webserver to the subscriber over the WorldsCom/MCI/UUnet network. Both the web site host subscriber and the subscriber requesting the web site are paying WorldCom/MCI/UUnet for their respective subscriptions to the network. If the subscriber requesting the web page is on a different network, the traffic will travel from the WorldCom/MCI/UUnet network to a NAP where it is handed off to the recipient subscriber's network through peering. WorldCom/MCI/UUnet is being paid by their subscriber to carry the traffic half way to its destination and the recipient subscriber's network service provider is being paid by their subscriber to carry the traffic half way.

WorldCom/MCI/UUnet does not require any different or additional capacity or facilities that they are not being paid for by their customers if the traffic originates and terminates on their network or if it originates on their network and terminates on a different network. Again, it is a wash. All network service providers are compensated by their respective subscribers directly for the traffic they haul.

WorldCom/MCI have argued that they have incurred additional cost to facilitate private peering. Private peering is a mechanism for network service providers to interconnect their networks at locations other than the six NAPs. This practice can provide for additional routing efficiencies and redundancies. WorldCom/MCI raises the argument that there are additional

costs associated with private peering. Agreed, there are additional costs – for both network service providers. It requires that both provider's networks meet at a common location where the interconnection can be made. Both providers must pay the cost to reach and connect at the agreed upon facility. The costs are essentially equal on both sides and historically, each provider has absorbed its own expense.

The Internet and its digital traffic have increased exponentially over the past few years. The NAPs were equipped to handle a certain level of traffic. As the traffic increased beyond design capacity, there was degradation of service. WorldCom/MCI/UUnet have stated that the NAPs are congested and experiencing packet loss (bottlenecking) and suggest that the only alternative is private peering which justifies assessing a peering charge to other backbone providers. Additionally, WorldCom/MCI/UUnet suggest that as a result of peering, they are required to expand their network backbone capacity, requiring additional expenditures.

The present congestion at NAPs is a direct result of increased sales growth of Internet users over their own networks. These additional sales have resulted in additional revenues and it is these revenues which should fund the expansion of their network facilities not fees from peering arrangements which would only prohibit competition from smaller companies.

All network service providers who connect to any NAP pay an initial connection fee and a monthly recurring fee for each connection to the organization that owns and operates the NAP. Therefore, the NAPs are operating as profitable businesses in and of themselves. In fact MAE-East and MAE-West NAP's are owned and operated by Metropolitan Fiber Systems (MFS) who is owned by WorldCom.

The NAPs and the Internet national backbone have required expansion to accommodate the additional traffic. However, the expansion of network facilities is a direct result of an

additional subscriber (customer) base. The additional traffic is the very result of selling network access. Additional sales have resulted in additional revenues and it is these revenues which should fund the expansion of the network facilities not fees from peering arrangements.

The very term, "Peer" was used by The National Science foundation to characterize relationship that fundamentally forms the Internet by interconnecting diverse networks that are owned and operated by companies and organizations on a level playing field. If any one company such as WorldCom that already owns UUnet, MFS, MAE-East, MAE-West, Compuserve, America On Line and ANS is permitted to charge for peering, it will gain an unfair competitive advantage by making it cost prohibitive for new companies to enter the market place. It will force existing backbone providers to increase their costs so significantly that the pass-down cost will jeopardize their current customer base. Thus, they will may be forced out of business. WorldCom will then have a monopoly and in a sense "own" the Internet. Without free enterprise and competition, prices could rise. The long-term economic ramifications could be devastating domestically and could seriously stress our international relationships that are critical to our national and economic security. After all, the Internet is now a world-wide shared network.

It is absolutely paramount that the Internet remain an arena where fair market competition is available on an equal basis to all network service providers through a requirement of open and free peering without monetary settlement at the nation's six established NAPs. The condition of open and free peering must be carefully crafted to stipulate that WorldCom/MCI/UUnet be required to facilitate peering at the nation's six NAP's. These NAPs are the common and established Network Access Points. If the condition is not drafted properly, WorldCom could disconnect from the NAPs and require only private peering with monetary

settlement. For example, approximately fifteen months ago, MCI removed its connection from the Commercial Internet Exchange (CIX) NAP. A connection to CIX requires all members to execute a multilateral peering agreement, which facilitates free and open peering with all other members.

Additionally, it is critical that a condition of the merger prohibit WorldCom/MCI/UUnet from intentionally creating any degradation of traffic to or from their network to another. Otherwise, such a practice could easily be implemented which would give the appearance that WorldCom/MCI/UUnet's network is of superior quality as compared to a competitive network. Once again, this would certainly slant the playing field in favor of WorldCom/MCI/UUnet.
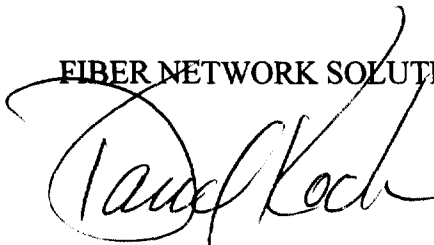
MINIMUM PEERING CRITERIA

It is reasonable that certain criteria be met by a network service provider before WorldCom/MCI/UUnet be required to peer. Reasonable criteria might require the network service provider to:

1. Have connections at DS3 or greater speeds to at least three of the six diverse NAPs, with at least one connection on opposite sides of the continent. The established NAPs must include any of the following: MAE-East, Sprint NAP, PAC Bell, MAE-West, CIX and AADS Chicago NAP,

2. Have a valid Autonomous System Number (ASN),

3. Have a carrier class router capable of BGP 4,

4. Have the technical capability to run BGP 4,

5. Have a staffed 24x7 NOC (24 hours per day / 7 days per week Network Operations Center) with qualified technicians available to solve problems,

6. Agree to not default any traffic to each others network, and

7. Exchange its routes and its customer 's routes without monetary settlement.

Fair competition in the Internet industry has been instrumental in providing affordable access to this powerful communications medium. Fiber Network Solutions, Inc. urges you to take appropriate action to ensure free and opening peering at the nations six NAPs as a condition of any merger.

Respectfully submitted,

FIBER NETWORK SOLUTIONS, INC.

David J. Koch
President and CEO

FIBER NETWORK SOLUTIONS, INC.

Laurel I. Sturm, Esq.
General Counsel